

[illegible]

Applicant: Foung *et al.*
Serial No.:
Filed: December 1, 2000
For: PREVENTION AND TREATMENT OF HCV INFECTION EMPLOYING
ANTIBODIES DIRECTED AGAINST CONFORMATIONAL EPITOPES

Sir:

In the Specification

Please charge any fees that may be associated with this matter, or credit any overpayments, to our Deposit Account No. 03-1721.

C. Hunter Baker, M.D., Ph.D.
Reg. No.: 46,533

Dated: December 1, 2000

SEQUENCE LISTING

<110> Fount, Steven K.H.
Hadlock, Kenneth G.

<120> Prevention and Treatment of HCV Infection Employing
Antibodies that Inhibit the Interaction of HCV Virions
with Their Receptor.

<130> 2002850-0009

<140> 09/000/00

<141> 2000-12-01

<160> 35

<170> PatentIn Ver. 2.1

<210> 1

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<212> DNA

<213> Hepatitis C Virus

<400> 1

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<213> Hepatitis C Virus

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atgtggctcg gggccctggt tgacacctag gtgcctagta 160

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<211> 160

<212> DNA

<213> T7 Bacteriophage

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taacaccttg acttgcccca cggactgttt ccggaagcac cccgaggcca cttacaccaa 120
atgtggttcg gggccttggc tgacacctag gtgcatagtt 160

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<211> 166

<212> DNA

<213> Bacterial Protein

<400> 5

ctccactggc tacaccaaga cttgcggcgc accaccctgc cgcattagag ctgacttcaa 60
tgccagcatg gacttggtgt gccccacgga ctgttttagg aagcatcctg ataccaccta 120
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<211> 167

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic

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gccagcacgg acctgctgtg cccccacgga tgtttcagga agcatcctga agccacttac 120
atcaaatgtg gctctggggc cccctgtga cgccaaagt cctaata 167

<210> 7

<211> 166

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Synthetic

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cgggactggg ttcactaaga catgcggtgc accaccttgc cgcattagga aagactacaa 60
cagcactatc gatttattgt gccccacaga ctgttttagg aagcaccag atgctaccta 120
tcttaagtgt ggagcagggc cttggttaac tcccaggtgc ctggta 166

<210> 8
<211> 166
<212> DNA
<213> Hepatitis C Virus

<400> 8
tgggactggg ttcactaaga catgcggtgc accaccttgc cgcattagga gggactgcaa 60
cggaaccctc gacctattgt gccccacaga ctgtttcaga aagcaccag atactaccta 120
ccttaagtgt ggagcggggc cttggttgac ccccaaagtc atggta 166

<210> 9
<211> 160
<212> DNA
<213> Hepatitis C Virus

<400> 9
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caacaccttg cgtgccccca ctgattgtt cgcgaagcat ccggaagcca cgtactctcg 120
gtgcggctcc ggtccctgga ttacgcccag gtgcctggtc 160

<210> 10
<211> 160
<212> DNA
<213> Hepatitis C Virus

<400> 10
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taacaccttg acttgcccc cggactgtt cgcgaagcac cccgaggcca cttacaccaa 120
atgtggttcg gggccttggc tgacacctag gtgcatagtt 160

<210> 11
<211> 164
<212> DNA
<213> Hepatitis C Virus

<400> 11
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gccagcacgg acctgctgtg cccacggac tgtttcagga agcatcctga agccacttac 120
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<210> 12
<211> 167
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Synthetic

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cggaaccctc gacctattgt gcccacaga ctgtttcaga aagcaccag atactaccta 120
ccttaagtgt ggagcggggg ccttggttga ccccaaagt catggta 167

<210> 13
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Flag Epitope

<400> 13
Asp Tyr Lys Asp Asp Asp Asp Lys
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<210> 14
<211> 10
<212> PRT
<213> T7 Bacteriophage

<400> 14
Met Ala Ser Met Thr Gly Gly Gln Met Gly
1 5 10

<210> 15
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:S-Tag Sequence

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5

10

15

<210> 16

<211> 20

<212> DNA

<213> Hepatitis C Virus

<400> 16

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<210> 17

<211> 21

<212> DNA

<213> Hepatitis C Virus

<400> 17

cgcatggcnt gggayatgat g

21

<210> 18

<211> 32

<212> DNA

<213> Hepatitis C Virus

<400> 18

cgaagcttca tatgatcgct ggtgctcact gg

32

<210> 19

<211> 38

<212> DNA

<213> Hepatitis C Virus

<400> 19

gcggatccct gcagctacaa actggcttga agaatcca

38

<210> 20

<211> 34

<212> DNA

<213> Hepatitis C Virus

<400> 20

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34

<210> 21
<211> 38
<212> DNA
<213> Hepatitis C Virus

<400> 21
gctctagact gcagctatat gccagcctgg agcaccat

38

<210> 22
<211> 34
<212> DNA
<213> Hepatitis C Virus

<400> 22
cgctcgagcc atggttggcg gggctcattg gggc

34

<210> 23
<211> 40
<212> DNA
<213> Hepatitis C Virus

<400> 23
tcgaattcgg atcctacaaa gcacotttta ggagataagc

40

<210> 24
<211> 34
<212> DNA
<213> Hepatitis C Virus

<400> 24
cgctcgagcc atggttttcg gcggccattg ggtg

34

<210> 25
<211> 40
<212> DNA
<213> Hepatitis C Virus

<400> 25
tcgaattcgg atcctacaga gacgctttaa ggaggtaggc

40

<210> 26
<211> 23
<212> DNA

<213> Hepatitis C Virus

<400> 26

tggttcggbt gywcntggat gaa

23

<210> 27

<211> 26

<212> DNA

<213> Hepatitis C Virus

<400> 27

taatgccana rcckrtangg gtagtc

26

<210> 28

<211> 379

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Pdisplay Vector
Sequence with E2 insert of Sflb-E2

<400> 28

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Gly Ser Thr Gly Asp Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Gly Ala
20 25 30

Gln Pro Ala Arg Ser Thr Thr Tyr Thr Thr Gly Gly Ala Ala Ser Arg
35 40 45

Thr Thr Gly Thr Phe Thr Ser Leu Phe Asn Ala Gly Ser Ser Gln Lys
50 55 60

Ile Gln Leu Ile Asn Thr Asn Gly Ser Trp His Ile Asn Arg Thr Ala
65 70 75 80

Leu Asn Cys Asn Asp Ser Leu Asn Thr Gly Phe Leu Ala Ala Leu Phe
85 90 95

Tyr Val His Arg Phe Asn Ala Ser Gly Cys Pro Ala Arg Met Ala Ser
100 105 110

Cys Arg Ser Ile Asp Ala Phe Asp Gln Gly Trp Gly Pro Ile Thr Tyr
115 120 125

Ala Glu Ser His Ser Ser Asp Gln Arg Pro Tyr Cys Trp His Tyr Ala
 130 135 140

Pro Lys Pro Cys Gly Ile Val Pro Ala Ser Gln Val Cys Gly Pro Val
 145 150 155 160

Tyr Cys Phe Thr Pro Ser Pro Val Val Val Gly Thr Thr Asp His His
 165 170 175

Gly Val Pro Thr Tyr Ser Trp Gly Glu Asn Glu Thr Asp Val Leu Leu
 180 185 190

Leu Asn Asn Thr Arg Pro Pro Gln Gly Asn Trp Phe Gly Cys Thr Trp
 195 200 205

Met Asn Gly Thr Gly Phe Thr Lys Thr Cys Gly Gly Pro Pro Cys Asn
 210 215 220

Ile Gly Gly Val Gly Asn Asn Thr Leu Thr Cys Pro Thr Asp Cys Phe
 225 230 235 240

Arg Lys His Pro Glu Ala Thr Tyr Thr Lys Cys Gly Ser Gly Pro Trp
 245 250 255

Leu Thr Pro Arg Cys Ile Val Asp Tyr Pro Tyr Arg Leu Trp His Tyr
 260 265 270

Pro Cys Thr Val Asn Phe Thr Ile Phe Lys Val Arg Met Tyr Val Gly
 275 280 285

Gly Met Glu His Arg Leu Asn Ala Ala Cys Asn Trp Thr Arg Gly Glu
 290 295 300

Arg Cys Asp Leu Glu Asp Arg Asp Arg Ser Glu Leu Gln Val Ala Glu
 305 310 315 320

Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Ala Val Gly Gln Asp Thr
 325 330 335

Gln Glu Val Ile Val Val Pro His Ser Leu Pro Phe Lys Val Val Val
 340 345 350

Ile Ser Ala Ile Leu Ala Leu Val Val Leu Thr Ile Ile Ser Leu Ile
 355 360 365

Ile Leu Ile Met Leu Trp Gln Lys Lys Pro Arg
 370 375

<210> 29
 <211> 278
 <212> PRT
 <213> Hepatitis C Virus

<400> 29

Thr Thr Tyr Thr Thr Gly Gly Ala Ala Ser Arg Thr Thr Gly Thr Phe
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Thr Ser Leu Phe Asn Ala Gly Ser Ser Gln Lys Ile Gln Leu Ile Asn
 20 25 30

Thr Asn Gly Ser Trp His Ile Asn Arg Thr Ala Leu Asn Cys Asn Asp
 35 40 45

Ser Leu Asn Thr Gly Phe Leu Ala Ala Leu Phe Tyr Val His Arg Phe
 50 55 60

Asn Ala Ser Gly Cys Pro Ala Arg Met Ala Ser Cys Arg Ser Ile Asp
 65 70 75 80

Ala Phe Asp Gln Gly Trp Gly Pro Ile Thr Tyr Ala Glu Ser His Ser
 85 90 95

Ser Asp Gln Arg Pro Tyr Cys Trp His Tyr Ala Pro Lys Pro Cys Gly
 100 105 110

Ile Val Pro Ala Ser Gln Val Cys Gly Pro Val Tyr Cys Phe Thr Pro
 115 120 125

Ser Pro Val Val Val Gly Thr Thr Asp His His Gly Val Pro Thr Tyr
 130 135 140

Ser Trp Gly Glu Asn Glu Thr Asp Val Leu Leu Leu Asn Asn Thr Arg
 145 150 155 160

Pro Pro Gln Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Gly Thr Gly
 165 170 175

Phe Thr Lys Thr Cys Gly Gly Pro Pro Cys Asn Ile Gly Gly Val Gly
 180 185 190

Asn Asn Thr Leu Thr Cys Pro Thr Asp Cys Phe Arg Lys His Pro Glu
 195 200 205

Ala Thr Tyr Thr Lys Cys Gly Ser Gly Pro Trp Leu Thr Pro Arg Cys

210 215 220
 Ile Val Asp Tyr Pro Tyr Arg Leu Trp His Tyr Pro Cys Thr Val Asn
 225 230 235 240
 Phe Thr Ile Phe Lys Val Arg Met Tyr Val Gly Gly Met Glu His Arg
 245 250 255
 Leu Asn Ala Ala Cys Asn Trp Thr Arg Gly Glu Arg Cys Asp Leu Glu
 260 265 270
 Asp Arg Asp Arg Ser Glu
 275

<210> 30
 <211> 251
 <212> PRT
 <213> Hepatitis C Virus

<400> 30
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 Leu Asn Cys Asn Asp Ser Leu Asn Thr Gly Phe Leu Ala Ala Leu Phe
 20 25 30
 Tyr Val His Arg Phe Asn Ala Ser Gly Cys Pro Ala Arg Met Ala Ser
 35 40 45
 Cys Arg Ser Ile Asp Ala Phe Asp Gln Gly Trp Gly Pro Ile Thr Tyr
 50 55 60
 Ala Glu Ser His Ser Ser Asp Gln Arg Pro Tyr Cys Trp His Tyr Ala
 65 70 75 80
 Pro Lys Pro Cys Gly Ile Val Pro Ala Ser Gln Val Cys Gly Pro Val
 85 90 95
 Tyr Cys Phe Thr Pro Ser Pro Val Val Val Gly Thr Thr Asp His His
 100 105 110
 Gly Val Pro Thr Tyr Ser Trp Gly Glu Asn Glu Thr Asp Val Leu Leu
 115 120 125
 Leu Asn Asn Thr Arg Pro Pro Gln Gly Asn Trp Phe Gly Cys Thr Trp
 130 135 140

Met Asn Gly Thr Gly Phe Thr Lys Thr Cys Gly Gly Pro Pro Cys Asn
 145 150 155 160

Ile Gly Gly Val Gly Asn Asn Thr Leu Thr Cys Pro Thr Asp Cys Phe
 165 170 175

Arg Lys His Pro Glu Ala Thr Tyr Thr Lys Cys Gly Ser Gly Pro Trp
 180 185 190

Leu Thr Pro Arg Cys Ile Val Asp Tyr Pro Tyr Arg Leu Trp His Tyr
 195 200 205

Pro Cys Thr Val Asn Phe Thr Ile Phe Lys Val Arg Met Tyr Val Gly
 210 215 220

Gly Met Glu His Arg Leu Asn Ala Ala Cys Asn Trp Thr Arg Gly Glu
 225 230 235 240

Arg Cys Asp Leu Glu Asp Arg Asp Arg Ser Glu
 245 250

<210> 31

<211> 215

<212> PRT

<213> Hepatitis C Virus

<400> 31

Phe Asn Ala Ser Gly Cys Pro Ala Arg Met Ala Ser Cys Arg Ser Ile
 1 5 10 15

Asp Ala Phe Asp Gln Gly Trp Gly Pro Ile Thr Tyr Ala Glu Ser His
 20 25 30

Ser Ser Asp Gln Arg Pro Tyr Cys Trp His Tyr Ala Pro Lys Pro Cys
 35 40 45

Gly Ile Val Pro Ala Ser Gln Val Cys Gly Pro Val Tyr Cys Phe Thr
 50 55 60

Pro Ser Pro Val Val Val Gly Thr Thr Asp His His Gly Val Pro Thr
 65 70 75 80

Tyr Ser Trp Gly Glu Asn Glu Thr Asp Val Leu Leu Leu Asn Asn Thr
 85 90 95

Arg Pro Pro Gln Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Gly Thr
 100 105 110

Gly Phe Thr Lys Thr Cys Gly Gly Pro Pro Cys Asn Ile Gly Gly Val
 115 120 125

Gly Asn Asn Thr Leu Thr Cys Pro Thr Asp Cys Phe Arg Lys His Pro
 130 135 140

Glu Ala Thr Tyr Thr Lys Cys Gly Ser Gly Pro Trp Leu Thr Pro Arg
 145 150 155 160

Cys Ile Val Asp Tyr Pro Tyr Arg Leu Trp His Tyr Pro Cys Thr Val
 165 170 175

Asn Phe Thr Ile Phe Lys Val Arg Met Tyr Val Gly Gly Met Glu His
 180 185 190

Arg Leu Asn Ala Ala Cys Asn Trp Thr Arg Gly Glu Arg Cys Asp Leu
 195 200 205

Glu Asp Arg Asp Arg Ser Glu
 210 215

<210> 32

<211> 192

<212> PRT

<213> Hepatitis C Virus

<400> 32

Gly Pro Ile Thr Tyr Ala Glu Ser His Ser Ser Asp Gln Arg Pro Tyr
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Cys Trp His Tyr Ala Pro Lys Pro Cys Gly Ile Val Pro Ala Ser Gln
 20 25 30

Val Cys Gly Pro Val Tyr Cys Phe Thr Pro Ser Pro Val Val Val Gly
 35 40 45

Thr Thr Asp His His Gly Val Pro Thr Tyr Ser Trp Gly Glu Asn Glu
 50 55 60

Thr Asp Val Leu Leu Leu Asn Asn Thr Arg Pro Pro Gln Gly Asn Trp
 65 70 75 80

Phe Gly Cys Thr Trp Met Asn Gly Thr Gly Phe Thr Lys Thr Cys Gly
 85 90 95

Gly Pro Pro Cys Asn Ile Gly Gly Val Gly Asn Asn Thr Leu Thr Cys

| | | |
|---|-----|-----|
| 100 | 105 | 110 |
| Pro Thr Asp Cys Phe Arg Lys His Pro Glu Ala Thr Tyr Thr Lys Cys | | |
| 115 | 120 | 125 |
| Gly Ser Gly Pro Trp Leu Thr Pro Arg Cys Ile Val Asp Tyr Pro Tyr | | |
| 130 | 135 | 140 |
| Arg Leu Trp His Tyr Pro Cys Thr Val Asn Phe Thr Ile Phe Lys Val | | |
| 145 | 150 | 155 |
| Arg Met Tyr Val Gly Gly Met Glu His Arg Leu Asn Ala Ala Cys Asn | | |
| 165 | 170 | 175 |
| Trp Thr Arg Gly Glu Arg Cys Asp Leu Glu Asp Arg Asp Arg Ser Glu | | |
| 180 | 185 | 190 |

<210> 33
 <211> 261
 <212> PRT
 <213> Hepatitis C Virus

<400> 33
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 20 25 30
 Thr Asn Gly Ser Trp His Ile Asn Arg Thr Ala Leu Asn Cys Asn Asp
 35 40 45
 Ser Leu Asn Thr Gly Phe Leu Ala Ala Leu Phe Tyr Val His Arg Phe
 50 55 60
 Asn Ala Ser Gly Cys Pro Ala Arg Met Ala Ser Cys Arg Ser Ile Asp
 65 70 75 80
 Ala Phe Asp Gln Gly Trp Gly Pro Ile Thr Tyr Ala Glu Ser His Ser
 85 90 95
 Ser Asp Gln Arg Pro Tyr Cys Trp His Tyr Ala Pro Lys Pro Cys Gly
 100 105 110

Ile Val Pro Ala Ser Gln Val Cys Gly Pro Val Tyr Cys Phe Thr Pro
 115 120 125

Ser Pro Val Val Val Gly Thr Thr Asp His His Gly Val Pro Thr Tyr
 130 135 140

Ser Trp Gly Glu Asn Glu Thr Asp Val Leu Leu Leu Asn Asn Thr Arg
 145 150 155 160

Pro Pro Gln Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Gly Thr Gly
 165 170 175

Phe Thr Lys Thr Cys Gly Gly Pro Pro Cys Asn Ile Gly Gly Val Gly
 180 185 190

Asn Asn Thr Leu Thr Cys Pro Thr Asp Cys Phe Arg Lys His Pro Glu
 195 200 205

Ala Thr Tyr Thr Lys Cys Gly Ser Gly Pro Trp Leu Thr Pro Arg Cys
 210 215 220

Ile Val Asp Tyr Pro Tyr Arg Leu Trp His Tyr Pro Cys Thr Val Asn
 225 230 235 240

Phe Thr Ile Phe Lys Val Arg Met Tyr Val Gly Gly Met Glu His Arg
 245 250 255

Leu Asn Ala Ala Cys
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<210> 34
 <211> 196
 <212> PRT
 <213> Hepatitis C Virus

<400> 34
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 1 5 10 15

Thr Ser Leu Phe Asn Ala Gly Ser Ser Gln Lys Ile Gln Leu Ile Asn
 20 25 30

Thr Asn Gly Ser Trp His Ile Asn Arg Thr Ala Leu Asn Cys Asn Asp
 35 40 45

Ser Leu Asn Thr Gly Phe Leu Ala Ala Leu Phe Tyr Val His Arg Phe
 50 55 60

Asn Ala Ser Gly Cys Pro Ala Arg Met Ala Ser Cys Arg Ser Ile Asp
65 70 75 80

Ala Phe Asp Gln Gly Trp Gly Pro Ile Thr Tyr Ala Glu Ser His Ser
85 90 95

Ser Asp Gln Arg Pro Tyr Cys Trp His Tyr Ala Pro Lys Pro Cys Gly
100 105 110

Ile Val Pro Ala Ser Gln Val Cys Gly Pro Val Tyr Cys Phe Thr Pro
115 120 125

Ser Pro Val Val Val Gly Thr Thr Asp His His Gly Val Pro Thr Tyr
130 135 140

Ser Trp Gly Glu Asn Glu Thr Asp Val Leu Leu Leu Asn Asn Thr Arg
145 150 155 160

Pro Pro Gln Gly Asn Trp Phe Gly Cys Thr Trp Met Asn Gly Thr Gly
165 170 175

Phe Thr Lys Thr Cys Gly Gly Pro Pro Cys Asn Ile Gly Gly Val Gly
180 185 190

Asn Asn Thr Leu
195

<210> 35

<211> 192

<212> PRT

<213> Hepatitis C Virus

<400> 35

Tyr Glu Val Arg Asn Val Ser Gly Val Thr His Val Thr Asn Asp Cys
1 5 10 15

Ser Asn Ser Ser Ile Val Tyr Glu Ala Ala Asp Met Ile Met His Thr
20 25 30

Pro Gly Cys Val Pro Cys Val Arg Glu Gly Asn Thr Ser Arg Cys Trp
35 40 45

Val Ala Leu Thr Pro Thr Leu Ala Ala Arg Asn Ala Ser Val Pro Thr
50 55 60

Ala Ala Ile Arg Arg His Ile Asp Leu Leu Val Gly Thr Ala Thr Phe

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
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| Ser | Gln | Leu | Phe | Thr | Phe | Ser | Pro | Arg | Arg | His | His | Thr | Val | Gln | Asp |
| | | 100 | | | | | | 105 | | | | | 110 | | |
| Cys | Asn | Cys | Ser | Ile | Tyr | Pro | Gly | His | Val | Thr | Gly | His | Arg | Met | Ala |
| | | 115 | | | | | | 120 | | | | 125 | | | |
| Trp | Asp | Met | Met | Met | Asn | Trp | Ser | Pro | Thr | Ala | Ala | Leu | Val | Val | Ser |
| | | 130 | | | | | | 135 | | | | 140 | | | |
| Gln | Leu | Leu | Arg | Ile | Pro | Gln | Ala | Val | Met | Asp | Met | Val | Ala | Gly | Ala |
| 145 | | | | | 150 | | | | | 155 | | | | | 160 |
| His | Trp | Gly | Val | Leu | Ala | Gly | Leu | Ala | Tyr | Tyr | Ser | Met | Ala | Gly | Asn |
| | | | 165 | | | | | | 170 | | | | | 175 | |
| Trp | Ala | Lys | Val | Leu | Ile | Val | Met | Leu | Leu | Phe | Ala | Gly | Val | Asp | Gly |
| | | 180 | | | | | | 185 | | | | | 190 | | |

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Application papers not suitable for publication

SN 09128720

Mail Date 12-01-00

- ☐ Non-English Specification
- ☒ Specification contains drawing(s) on page(s) _____ or table(s) p29, 54, 63, 70, 74,
81, 85, 91, 92.
- ☐ Landscape orientation of text ☐ Specification ☐ Claims ☐ Abstract
- ☐ Handwritten ☐ Specification ☐ Claims ☐ Abstract
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